AF/2683

920476-904739 MAIL STOP AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In the application of	:	John E. Hudson
Serial No.	:	09/688,557
Filed	:	October 16, 2000
For	:	Wireless Communication System and Method Therefore
Examiner	:	James D. Ewart
Art Unit	:	2683
Customer number	:	23644

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 11, 2005
Name of person signing: Maria Meister
Signature:

RESUBMISSION OF REQUEST FOR REINSTATEMENT OF APPEAL

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

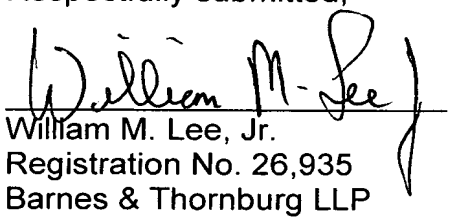
Submitted herewith is a paper mailed to the Patent and Trademark office on February 7, 2005 in this application, as well as a copy of the post card receipt of the undersigned showing that the paper was received by the Patent and Trademark office on February 11, 2005.

Unfortunately, however, the serial number in both the request for reinstatement and the post card was off by one digit. The serial number identified the paper as 09/668,557 rather than 09/688,557.

Thus, a proper paper was filed with the Patent and Trademark office but inadvertently had the wrong serial number. It is therefore requested that the Patent and Trademark office properly enter the paper in application serial no. 09/688,557 and reinstate the appeal for this application, as requested.

August 11, 2005

Respectfully submitted,



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CASE NO. 920476-904739
Applicant: John E. Hudson
Application No.: 09/668,557
Filed October 16, 2000
Title: Wireless Communication System and Method Therefor

Customer Number: 23644

MAILING DATE: FEBRUARY 17, 2005

1. Request for Reinstatement of Appeal
2. Supplemental Brief on Appeal
3. Certificate of Mailing

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Name of person signing: Minnie Wilson
Signature: Minnie Wilson

SUPPLEMENTAL BRIEF ON APPEAL

Honorable Director of Patents and Trademarks
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This appeal is from the Examiner's further Office Action dated December 7, 2004 in which the Examiner re-opened prosecution and issued further rejections of the application. In an accompanying paper, the applicant has elected the option to request reinstatement of the appeal.

Because an appeal fee and brief fee have already been paid, no additional fees are believed necessary. However, should any additional fee be required, such may be deducted from deposit account number 12-0913 after telephone confirmation by the undersigned.

(i) **Real Party in Interest**

This application is assigned to Nortel Networks Limited. The assignment is recorded at 011464/0460.

(ii) **Related Appeals and Interferences**

There are no related appeals or interferences.

(iii) **Status of Claims**

This application was filed with claims 1 through 48. The claims have not been amended during the examination procedure and consequently the claims as currently pending are as filed. The claims as currently pending are set forth in the Claims Appendix.

(iiii) **Status of Amendments**

A paper entitled "Response to Office Action Mailed February 11th, 2004" was filed April 07, 2004 following the first final Office Action, and was entered by the Examiner. No amendment of the specification or claims was made.

An Advisory Action maintaining the Examiner's rejection of claims 1 to 48 as filed was mailed April 20, 2004. It is this rejection of the claims that was appealed and discussed in the Brief mailed July 12, 2004 and received July 20, 2004.

The Examiner then re-opened prosecution and issued the final Office Action of December 7, 2004, substituting Rahman U.S. Patent No. 6,078,817 as the secondary reference rather than Bi U.S. Patent Publication No. 2002/0036999. The

applicant has elected to request reinstatement of the appeal, and it is the continuing rejection of claims 1 to 48 that is again appealed.

(iv) **Summary of the Claimed Subject Matter**

The present invention is directed to enhancing the wireless link bandwidth in a cellular wireless communications system in which data traffic is communicated between a remote terminal (132), such as a web content server, for example, in an external network, via a wireless communications system mobile switching centre (MSC) (128) and a plurality of base stations to a wireless communications system terminal (200). This is achieved by establishing a plurality of simultaneous but separate respective communications links between the terminal (200) and the plurality of base stations. Each of the plurality of simultaneous communications links carries some of the data traffic being communicated from the MSC via the plurality of base stations to the terminal, where the data traffic content of each such link comprises a different (i.e. non-identical) part of said data traffic.

The present invention thereby enables the bandwidth to the wireless terminal (200) to be considerably increased above that which could be provided on a communications link between the wireless terminal and a single base station.

(vi) **Grounds of Rejection to be Reviewed on Appeal**

The following issues are presented, consolidated appropriately from the Examiner's seven rejections:

1. The rejection of claims 1, 5 to 14, 17, 19 to 25, 27 to 33, 35 to 41 & 43 to 48 under 35 U.S.C. §103(a) as being un-patentable over Kanerva et al (US5,793,744) in view of Rahman (US 6,078,817);

2. The rejection of claims 2 to 3 under 35 U.S.C. §103(a) as being unpatentable over Kanerva and Rahman and further in view of Bi (US Patent Pub No. 2002/0036999);

3. The rejection of claims 4, 18, 26, 34 & 42 under 35 U.S.C. §103(a) as being un-patentable over Kanerva et al and Rahman and further in view of Smith et al (US6009124).

4. The rejection of claim 15 under 35 U.S.C. §103(a) as being un-patentable over Kanerva et al in view of Willars et al (US 6449290); and

5. The rejection of claim 16 under 35 U.S.C. §103(a) as being unpatentable under Kanerva et al and Willars et al further in view of Smith et al.

(vii) **Argument**

Referring to issues 1-3, Kanerva teaches a mobile cellular wireless communications system in which a mobile terminal establishes a single (one to one) communications link with a base station in whose cell it is located. The single communications link comprises a multiplicity of parallel channels, e.g. time-slots or carriers, as a means of increasing the link bandwidth between the terminal and the single base station. Thus, Kanerva is directed to a scheme of how to divide the single communications link between the mobile terminal and the base station into a multiplicity of channels in order to increase the portion of bandwidth available on the single communications link to the terminal. As confirmed in Kanerva, the multiplicity of parallel channels (multichannel data link) is substantially similar to a single channel link (see Kanerva, column 8, lines 25 to 27). The link bandwidth cannot

therefore be increased above that sustainable by the single communications link between the mobile terminal and the single base station. There is no suggestion in Kanerva of establishing further communication links simultaneously between the mobile terminal and a plurality of other base stations in order to further enhance the wireless link bandwidth.

Rahman, like Kanerva, is generally representative of a conventional mobile cellular wireless communications system. Rahman relates particularly to code division multiple access (CDMA) networks and provides a method for dynamically increasing the capacity of such a network.

Rahman teaches that the problem of how to increase the capacity of a CDMA network can be solved by use of a network load processor and a load capacity monitor (Rahman, column 7 lines 39 and 43). The load capacity monitor constantly monitors the load on the capacity of the radio network and when the network is at full capacity the network load processor changes the parameters associated with the allocation of the base station resources in order to accommodate additional mobile stations (Rahman, column 7 lines 39-46).

Rahman also describes the technique known as "macro-diversity" in which a mobile station has two or more simultaneous links from two or more cells or base stations. This provides clearer reception of the radio telecommunication signals and therefore demodulation based on the sum of many signals received is much more reliable (Rahman, column 1 lines 43-47, 54-55 and 62-64). However "macro-diversity" results in a problem that there is a much greater chance that the network will become overloaded (Rahman, column 1 lines 59-62).

The Examiner argues that it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva with the teaching of Rahman of

communicating with the plurality of base stations to provide increased capacity. The Applicant respectfully disagrees.

A skilled person faced with the system of Kanerva and the teaching of Rahman wishing to increase the capacity of the network would not modify the system of Kanerva such that the terminal communicates with the plurality of base stations because Rahman teaches that this does not increase the capacity of the network but in fact results in a greater likelihood of the radio communications network being overloaded (Rahman, column 1 lines 59-62).

Furthermore, the macro diversity mode described in Rahman involves the same content data being sent over each of the links in order that the sum of the received signals can be combined to improve the reliability of the demodulation process (Rahman, column 1 lines 40-55). Therefore a person of ordinary skill who did combine the teachings of Kanerva and Rahman would arrive at a system which does not correspond to that described in claim 1 of the present application.

In view of the above, there is nothing in the teaching of Rahman relating to macro-diversity that would motivate a skilled person to modify Kanerva to replace the parallel set of channels on a single communications link between the wireless terminal and the single base station by separate respective communications links between the terminal and a plurality of base stations, each link carrying non-identical content. The teaching or suggestion to make the claimed combination and the expectation of success must both be found in the prior art references and not in the applicant's disclosure. It is clear that the Examiner is making use of hindsight to find the present invention as defined by claim 1 obvious in the light of Kanerva and Rahman which address very different technical issues. The rejection of claim 1 cannot therefore be sustained.

Since claims 2, 3 & 5 to 14 are dependent from claim 1, the rejection of these claims is moot in view of the foregoing. The same is true for claim 4.

The rejection of independent claims 17, 25, 33 & 41 on the same grounds as the rejection of claim 1 cannot be sustained for the reasons as set forth above. Further, the rejection of dependent claims 18 to 24, 26 to 32, 34 to 40 & 42 to 48 is moot in view of the foregoing.

Referring now issue 4, it should be noted that Willars teaches the provision of a plurality of modems in a base station, not a terminal as in the present invention. In additional, Willars is not directed to the issue of enhancing the wireless bandwidth to a terminal through a plurality of simultaneous communications links between the terminal and a plurality of base stations. Instead, that part of the disclosure of Willars relied on by the Examiner addresses a soft handoff technique in which a new base station modem is assigned to a terminal while the old base station modem continues to serve the call (col 2, lines 9 to 14). Once good communications are established with the terminal the old base station modem discontinues serving the call (col 2, lines 19 to 23). Once again, given that Kanerva and Willars address very different technical issues, a skilled person would not be motivated by the teaching of the existence of a plurality of modems in the base stations of Willars to modify the terminals in Kanerva to include multiple modems.

Consequently, the rejection of claim 15 cannot be sustained. The rejection of dependent claim 16 is moot in view of the foregoing.

The applicant therefore urges reversal of the Examiner's various rejections of claims 1 to 48 which are believed to define an invention which is both novel and non-obvious in view of the prior art references relied on by the Examiner, taken alone or in any combination.

February 7, 2005

Respectfully submitted,

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CLAIMS APPENDIX

1. A wireless communications system comprising a terminal capable of communicating with a plurality of base stations using a respective plurality of simultaneous communications links, a number of the plurality of simultaneous communications links bearing content data, wherein the content data borne by each of the number of the plurality of simultaneous communications links are non-identical.

2. A system as claimed in Claim 1, wherein at least one of the plurality of base stations supports a plurality of sectors.

3. A system as claimed in Claim 2, wherein the at least one of the plurality of base stations comprises a sectored antenna.

4. A system as claimed in Claim 1, wherein the terminal comprises an antenna arrangement arranged to direct a sector or beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

5. A system as claimed in Claim 1, wherein at least two of the communications links are completely isolated from each other.

6. A system as claimed in Claim 1, further comprising a routing entity capable of dividing the content data between the number of the plurality of communications links so that a proportion of the content data is communicated over a communications link of the number of the plurality of communications links and another proportion of the data is simultaneously communicated over another communications link of the number of the plurality of communications links.

7. A system as claimed in Claim 6, wherein a source of the content data comprises the routing entity.

8. A system as claimed in Claim 7, wherein the routing entity is arranged to control routing of virtual circuits so as to cause the proportion of the data to be communicated over the communications link of the number of the plurality of the communications links.

9. A system as claimed in Claim 6, further comprising a controller unit, the controller unit comprising the routing entity.

10. A system as claimed in Claim 7, wherein the routing entity is arranged to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

11. A system as claimed in Claim 9, wherein the routing entity is arranged to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

12. A system as claimed in Claim 6, wherein the routing entity is arranged to edit path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links.

13. A system as claimed in Claim 1, further comprising a controller unit, the controller unit being arranged to select the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links.

14. A system as claimed in Claim 13, wherein the controller is arranged to select the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links.

15. A communications terminal comprising a plurality of modems coupled to an antenna arrangement, the antenna arrangement supporting a plurality of simultaneous communications links, a number of the plurality of simultaneous communications links bearing content data, wherein the content data born by each of the number of the plurality of simultaneous communications links are non-identical.

16. A terminal as claimed in Claim 15, wherein the terminal comprises a sectored multiple beam antenna arranged to direct an antenna beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

17. A method of communicating data between a plurality of base stations and a terminal, the method comprising the step of:

establishing a plurality of respective simultaneous communications links between the plurality of base stations and the terminal, a number of the plurality of simultaneous communications links bearing content data, wherein the content data born by each of the number of the plurality of simultaneous communications links are non-identical.

18. A method as claimed in Claim 17, wherein the terminal comprises an antenna arrangement, and the method further comprises the step of:

directing a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

19. A method as claimed in Claim 17, further comprising the step of:

communicating the content data via the number of the plurality of communications links, a proportion of the data being communicated over a communications link of the number of the plurality of communications links and another proportion of the data being simultaneously communicated over another communications link of the number of the plurality of communications links.

20. A method as claimed in Claim 19, wherein a source of the content data controls routing of virtual circuits so as to cause the proportion of the content data to be communicated over the communications link of the number of the plurality of the communications links.

21. A method as claimed in Claim 19, further comprising the step of:

editing headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

22. A method as claimed in Claim 19, further comprising the step of:

editing path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links.

23. A method as claimed in Claim 17, further comprising the step of:

selecting the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links.

24. A method as claimed in Claim 23, further comprising the step of:

selecting the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links.

25. Computer executable software code stored on a computer readable medium, the code being for communicating data between a plurality of base stations and a terminal, the code comprising:

code to establish a plurality of simultaneous communications links between the plurality of base stations and the terminal, a number of the plurality of simultaneous communications links bearing content data, wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical.

26. Computer executable software code as claimed in Claim 25, wherein the terminal comprises a sectored multiple beam antenna, and the code further comprises:

code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

27. Computer executable software code as claimed in Claim 25, further comprising:

code to communicate the content data via the number of the plurality of communications links, a proportion of the data being communicated over a communications link of the number of the plurality of communications links and another proportion of the data being simultaneously communicated over another communications link of the number of the plurality of communications links.

28. Computer executable software code as claimed in Claim 27, further comprising code to enable a source of the content data controls routing of virtual circuits so as to cause the proportion of the content data to be communicated over the communications link of the number of the plurality of the communications links.

29. Computer executable software code as claimed in Claim 27, further comprising:

code to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

30. Computer executable software code as claimed in Claim 27, further comprising:

code to edit path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links.

31. Computer executable software code as claimed in Claim 25, further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links.

32. Computer executable software code as claimed in Claim 31, further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links.

33. A programmed computer for communicating data between at least one base station and a terminal, comprising memory having at least one region for storing computer executable program code, and

a processor for executing the program code stored in memory, wherein the program code includes:

code to establish a plurality of simultaneous communications links between the plurality of base stations and the terminal, a number of the plurality of simultaneous communications links bearing content data, wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical.

34. A programmed computer as claimed in Claim 33, wherein the terminal comprises a sectored multiple beam antenna, and the program code further comprises:

code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

35. A programmed computer as claimed in Claim 33, the program code further comprising:

code to communicate the content data via the number of the plurality of communications links, a proportion of the data being communicated over a communications link of the number of the plurality of communications links and another proportion of the data being simultaneously communicated over another communications link of the number of the plurality of communications links.

36. A programmed computer as claimed in Claim 35, the program code further comprising code to enable a source of the content data controls routing of virtual circuits so as to cause the proportion of the content data to be communicated over the communications link of the number of the plurality of the communications links.

37. A programmed computer as claimed in Claim 35, the program code further comprising:

code to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

38. A programmed computer as claimed in Claim 35, the program code further comprising:

code to edit path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links.

39. A programmed computer as claimed in Claim 33, the program code further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links.

40. A programmed computer as claimed in Claim 39, the program code further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links.

41. A computer readable medium having computer executable software code stored thereon, the code being for communicating data between at least one base station and a terminal and comprising:

code to establish a plurality of simultaneous communications links between the plurality of base stations and the terminal, a number of the plurality of simultaneous communications links bearing content data, wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical.

42. A computer readable medium as claimed in Claim 41, wherein the terminal comprises a sectored multiple beam antenna, and the program code further comprises:

code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations.

43. A computer readable medium as claimed in Claim 41, the program code further comprising:

code to communicate the content data via the number of the plurality of communications links, a proportion of the data being communicated over a communications link of the number of the plurality of communications links and another proportion of the data being simultaneously communicated over another communications link of the number of the plurality of communications links.

44. A computer readable medium as claimed in Claim 43, the program code further comprising code to enable a source of the content data controls routing of virtual circuits so as to cause the proportion of the content data to be communicated over the communications link of the number of the plurality of the communications links.

45. A computer readable medium as claimed in Claim 43, the program code further comprising:

code to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links.

46. A computer readable medium as claimed in Claim 43, the program code further comprising:

code to edit path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links.

47. A computer readable medium as claimed in Claim 41, the program code further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links.

48. A computer readable medium as claimed in Claim 47, the program code further comprising:

code to select the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links.